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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,484	02/25/2004	Stefan Moeller	LINDE-0618	1780
23599	7590	10/28/2005	EXAMINER	
MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			AFZALI, SARANG	
			ART UNIT	PAPER NUMBER
			3729	

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/785,484		MOELLER ET AL.	
	Examiner		Art Unit	
	Sarang Afzali		3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/25/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

The listing of references in the Search Report is not considered to be an information disclosure statement (IDS) complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) requires a legible copy of: (1) each foreign patent; (2) each publication or that portion which caused it to be listed; (3) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (4) all other information, or that portion which caused it to be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper." Therefore, the references cited in the Search Report have not been considered. Applicant is advised that the date of submission of any item of information or any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e). See MPEP § 609.05(a).

The reference numbers "2002/131919" and "2002/011331" and names of patentees or applicants "WO" and "WO" are not disclosed accurately under the table of Foreign Patent Documents.

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Reference numerals "21a, 21b" and "22a, 22b" as disclosed in specification, page 9, lines 1 and 2 respectively, are not shown on any of the disclosed figures. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The phrase "(Figure 4)" in last line of the Abstract has to be removed.

1. The disclosure is objected to because of the following informalities:

Page 7, line 33, the reference numeral "3" should read - - 4 - -.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "by means of a sheet (16, 27), or a strip in such a way that that side ... and/or the strip." in lines (3-6) are indefinite and vague. It is not clear as how a side of a sheet or a strip used in a connection piece can be completely covered by a side face of a heat exchanger block and/or the sheet and/or the strip? What does it mean that the sheet or strip is completely covered by itself?

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Levy et al. (US 6,089,313).

As applied to claim 1, Levy et al. teach a heat exchanger installations wherein two heat exchanger blocks (plate bundles 10 and 40, Fig. 6) are arranged next to one another, and the headers (manifolds 16 and 43, Fig. 6) of two adjacent heat exchanger blocks (10 and 40) are provided on their mutually confronting sides with orifices and are connected to one another by means of (nozzle 15, Fig. 6) in such a way that a flow connection occurs between the two headers (16 and 43).

As applied to claim 2, Levy et al. teach that the sides of the headers (16 and 43) which confront one another are arranged essentially perpendicularly to that side of the heat exchanger (10 and 40, Fig. 6) over which the respective header (16 and 43) extends.

As applied to claim 3, Levy et al. teach that the fluid connection (nozzle 44, Fig. 3) is perpendicular to headers (manifolds 45, 43, 16, Fig. 3) and therefore, is arranged perpendicularly to those sides of the heat exchanger blocks (10 and 40, Fig. 3) in which inlet and outlet orifices (both ends of nozzle 15, Fig. 3) of the heat exchange passages are located.

As applied to claim 4, Levy et al. teach that all the fluid connection (nozzle 44, Fig. 3) of the plate heat exchanger is provided on the top-left side of the sealed vessel (1, Fig. 3).

As applied to claim 5, Levy et al. teach that the two headers (16 and 43, Fig. 6) are connected to one another in such a way (nozzle 15 with uniform cross section, Fig. 5) that their cross section does not decrease at the connection point (see Fig. 5).

As applied to claim 6, Levy et al. teach that the two headers (16 and 43, Fig. 6) are of semicylindrical design.

As applied to claim 7, Levy et al. teach that the connection piece (nozzle 15, Fig. 6) is introduced between the two headers (16 and 43, Fig. 6).

As applied to claim 8, as best understood, Levy et al. teach that the heat exchanger blocks (10 and 40, Fig. 6) are arranged and spaced apart from one another, and are connected to one another by means of (nozzle 15, Fig. 6) made of a strip in such a way that the each end face of the connection strip (nozzle 15) is facing the heat exchanger blocks (right end face of nozzle 15 facing block 10 and left end face of nozzle 15 facing block 40, Fig. 6) and these end faces of nozzle (15, Fig. 6) are completely covered by side faces of the blocks (10 and 40) and headers (16 and 43)

5. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Chevalier et al. (US 5,144,809). Chevalier et al. teach a heat exchange line wherein two heat exchanger blocks (14 and 15, Fig. 2) are arranged next to one another, and the headers (6 and 9, Fig. 2) of two adjacent heat exchanger blocks (14 and 15) are provided on their mutually confronting sides with orifices and are connected to one another in such a way that a flow connection occurs between the two headers (6 and 9, Fig. 2). The features of claims 2-8 are clearly shown in Figure 2.

6. Claims 1-5, 7 and 8 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Dwyer (US 2004/0108105). Dwyer teaches a heat exchanger wherein

two heat exchanger blocks (two subunit 8, Fig. 2) are arranged next to one another, and the headers (multiple headers 3 of multiple subunits 8, Fig. 2) of two adjacent heat exchanger blocks (8, Fig. 2) are provided on their mutually confronting sides with orifices and are connected to one another in such a way that a flow connection occurs between the two headers (6 and 9, Fig. 2). The features of claims 2-5, 7 and 8 are clearly shown in Figure 2.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 9 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Levy et al. in view of Sasaki et al. Levy et al. teach the invention cited including that when making connection between heat exchanger blocks (10 and 40) by means of nozzle (15), the stress on nozzle (15) is reduced (col. 6, lines 28-32). The examiner takes official notice that it is well known in the art to provide a testing for leak-tightness and/or compressive strength of each individual heat exchanger blocks prior to assembling them together. In alternative, if applicant does not agree that Levy et al. meets all claimed limitations, Sasaki et al. teach a duplex heat exchanger wherein each heat exchanger (A or B) can individually and independently be tested (inspected) of coolant leakage before simple and final assemblage resulting in a remarkable improvement of the operations and productivity in

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manufacturing of the duplex heat exchanger (col. 11, lines 56-63). It would have been obvious to one of ordinary skill in the art at the time of invention to have provided Levy et al. with a suitable leak test such as one taught by Sasaki et al. in order to provide an effective and improvement in manufacturing processes.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarang Afzali whose telephone number is 571-272-8412. The examiner can normally be reached on 7:00-3:30 M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.A.

S.A.

10/25/2005


MARC JIMENEZ
PRIMARY EXAMINER
10/26/05